

Cooperative research projects of master's students (education programs) in the open informational educational environment

Cao Y., Kirilova G., Grunis M.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© Authors. Relevance of the research problem stems from the need to meet the challenges of personal growth of each participant of the educational process, a productive exchange of information and personalized contribution to the overall result of the conducted educational research. The aim of this paper is to improve joint training activities as the basis for future studies of masters that will be implemented in an open information and education space. The key approach to the study of the problems of the joint educational researches relies on the conceptual ideas of experiments conducting in joint environment in which access to individual and shared data in an open information education environment is restricted. Theoretical and technological tools were developed for working with factorial data of collaborative research in open educational environment. As a result these conceptual ideas were formulated for joint training of master's studies: the stages to improve joint research activities were grounded, the technology of forming joint bank of comparable research materials was created, the system of algorithms for collaborative (joint) working with experimental data was proposed, the strategy ensuring the adequacy of the joint pilot materials for attaining general and private purposes was worked out. This strategy also should be applied to the value and usefulness of collected data. The collected, studied, processed and presented in the paper unique experimental material can be useful both for solving current individual research tasks of undergraduates and for the development of new roles in research.

<http://dx.doi.org/10.12973/eurasia.2017.00722a>

Keywords

cooperative research projects, Masters' programs, open educational informational environment

References

- [1] Anand, V., Manz, C. C., & Glick, W. H. (1998). An organizational memory approach to information management. *Academy of management review*, 23(4), 796-809
- [2] Barbuceanu, M., & Fox, M. S. (1995). Cool: A Language for Describing Coordination in Multi Agent Systems (pp. 17-24). *International multi agent systems*
- [3] Brint, S., Cantwell, A., Saxena, P (2012). Disciplinary categories, majors, and undergraduate academic experiences: Rethinking Bok's "underachieving colleges" thesis. *Research in Higher Education*, 53(1), 1-25

- [4] Broomhead, D. S., King, G. P. (1986). Extracting qualitative dynamics from experimental data. *Physica. Nonlinear Phenomena*, 20(2-3), 217-236
- [5] Brophy, J. (1986) Teacher Influences on Student Achievement. *American Psychologist*, 41(10), 1069-1077
- [6] Carver, J. C., Chatterji, D., Kraft, N. A. (2016). Code clones and developer behavior: results of two surveys of the clone research community. *Empirical Software Engineering*, 21(4), 1476-1508
- [7] Chen, D., Zhao, H. (2012). Data security and privacy protection issues in cloud computing. *Computer Science and Electronics Engineering* (pp. 647-651). Hangzhou, Zhejiang, China: Computer Society
- [8] Chun, W. (2010). Teacher Quality Viewed from Teacher Involvement in Undergraduates' Thesis Writing. *Foreign Languages and Their Teaching*, 3, 0-12
- [9] Cobb, P., Zhao, Q., & Dean, C. (2009). Conducting design experiments to support teachers' learning: A reflection from the field. *The Journal of the Learning Sciences*, 18(2), 165-199
- [10] Daniels, M., Cajander, Å., Pears, A., & Clear, T. (2010). Engineering education research in practice: Evolving use of open ended group projects as a pedagogical strategy for developing skills in global collaboration. *International journal of engineering education*, 26(4), 795-806
- [11] Diane, E., T. Angelo, T., Cross, K. (1995) *Classroom Assessment Techniques: A Handbook for College Teachers* (pp. 189-192). San Francisco: Jossey-Bass
- [12] Duri, S., Elliott, J., Gruteser, M., Liu, X., Moskowitz P. (2004). Data protection and data sharing in telematics. *Mobile networks and applications*, 9(6), 693-701
- [13] Hamilton, L. S., Nussbaum, E. M., Snow, R. E. (1997). Enhancing the validity and usefulness of large scale educational assessments: II. NELS: science achievement. *American Educational Research Journal*, 34(1), 151-173
- [14] Hara, N., Solomon, P., Kim, S. L., & Sonnenwald, D. H. (2003). An emerging view of scientific collaboration: Scientists' perspectives on collaboration and factors that impact collaboration. *Journal of the American Society for Information science and Technology*, 54(10), 952-965
- [15] Hubwieser, P. (2012). Computer science education in secondary schools the introduction of a new compulsory subject. *ACM Transactions on Computing Education (TOCE)*, 12(4), 1-16
- [16] Israel, B., Checkoway, B., Schulz, A., & Zimmerman, M. (1994). Health education and community empowerment: conceptualizing and measuring perceptions of individual, organizational, and community control. *Health education quarterly*, 21(2), 149-170
- [17] Jordi, R. (2011). Reframing the concept of reflection: Consciousness, experiential learning, and reflective learning practices. *Adult Education Quarterly*, 61(2), 181-197
- [18] Kirilova, G.I., Vlasova, V.K. (2016). Information streams of education content integrative designing at a federal university. *IEJME: Mathematics Education*, 11(4), 767-778
- [19] Kulik, J. A., Kulik, C. L., Cohen, P. A. (1979). A meta-analysis of outcome studies of Keller's personalized system of instruction. *American Psychologist*, 34(4), 307-308
- [20] Mandel, J. (2012). *The statistical analysis of experimental data*. New York: Wiley & Sons, Inc
- [21] Maslow, A. H. (2003). A theory of human motivation. *Psychological review*, 50(4), 370-396
- [22] Ogata, H., Yano, Y. (2000). -Combining knowledge awareness and information filtering in an open ended collaborative learning environment. *International Journal of Artificial Intelligence in Education*, 11(1), 33-46
- [23] Rosenberg, M. S. (2005) The file-drawer problem revisited: a general weighted method for calculating fail-safe numbers in meta-analysis. *Evolution*, 59(2), 464-468
- [24] Salomon, G. (2016) It's not just the tool but the educational rationale that counts. *Educational Technology and Polycontextual Bridging* (pp. 149-161). Sense Publishers
- [25] Santos, R., Azevedo, J., & Pedro, L. (2013). Digital Divide in Higher Education Students' Digital Literacy. In *European Conference on Information Literacy* (pp. 178-183). Springer International Publishing
- [26] Schraw, G., Crippen, K. J., Hartley, K. (2006). Promoting self-regulation in science education: Metacognition as part of a broader perspective on learning. *Research in science education*, 36(1-2), 111-139
- [27] Serow, R.C. (2000) Research and teaching at a research university. *Higher Education*, 40(4), 449-463
- [28] Ventegodt, S., Merrick, J., Andersen, N. J. (2003). Quality of life theory III. Maslow revisited. *The scientific world journal*, 3(1), 1050-1057
- [29] Yin, R.K. (1981). The case study crisis: Some answers. *Administrative science quarterly*, 26(1), 58-65
- [30] Yoon, C., Hwang, J. W., & Kim, R. (2012). Exploring factors that influence students' behaviors in information security. *Journal of Information Systems Education*, 23(4), 407-408
- [31] Zeiner, K. M., Laib, M., Schippert, K. (2016). Identifying Experience Categories to Design for Positive Experiences with Technology at Work. *Proceedings of the CHI Conference Extended Abstracts on Human Factors in Computing Systems* (pp. 3013-3020). ACM